

CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 1-13, 15, and 17-33.
- After this Amendment: Claims 1-13, 17-29 and 31-33.

Non-Elected, Canceled, or Withdrawn claims: 14-16, 30, and 34-

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Amended claims: Claims 1, 7, 18 and 29.

New claims: None.

Claims:

1. (Currently Amended) A method, comprising:

calculating a calibration correlation value to compensate for an error introduced by a scanning process implemented to produce a scanned image;

compare properties of an original digital image, the original digital image being defined by a matrix having dimensions (m×n) to properties of a scanned image of the original digital image, the scanned image of the original digital image being defined as a matrix having dimensions (k×l), to produce a correlation value, wherein during the comparison of the original digital image and

the scanned image of the of the original digital image the scanned image is scaled to match dimensions with the original digital image by;

dividing the scanned image of the original digital image into $(m \times n)$ blocks, each block having dimensions $(k \cdot P/m)$ in the x dimension and $(l \cdot P/n)$ in the y dimension, wherein P is a resolution of dots per inch by which the second image was scanned at;
summing and averaging pixel value parameters associated with each pixel in each block respectively; and

determining a correlation value between the scanned image and an original digital image, wherein the scanned image is included in a digital file;

subtracting the calibration correlation value from the correlation value to produce a difference; and

generating a signal indicating whether the ~~resulting correlation value~~ difference exceeds a threshold.

2. (Original) The method of claim 1, wherein determining a correlation value between the scanned image and an original digital image comprises performing a pixel-by-pixel comparison of a property of the original digital image and the scanned image.

3. (Original) The method of claim 1, wherein determining a correlation value between the scanned image and an original digital image comprises computing a cross-product of the original digital image the scanned image.

4. (Original) The method of claim 1, wherein determining a correlation value between the scanned image and an original digital image comprises calculating the variance between a property of corresponding pixels in the original digital image and the scanned image.

5. (Original) The method of claim 4, wherein determining a correlation value between the scanned image and an original digital image comprises calculating a higher-order difference between a property of corresponding pixels in the original digital image and the scanned image.

6. (Original) The method of claim 1, wherein determining a correlation value between the scanned image and an original digital image comprises computing the sum of the pixel-by-pixel multiplication of a property of corresponding pixels in the original digital image and in the scanned image.

7. (Currently Amended) The method of claim 1, wherein generating a signal if the correlation value difference exceeds a threshold comprises comparing a computed correlation value to a predetermined threshold.

8. (Original) The method of claim 7, wherein comparing a computed correlation value to a predetermined threshold comprises comparing an n^{th} order statistic between a property of corresponding pixels in the original digital image and the scanned image to a predetermined variance parameter.

9. (Original) The method of claim 8, wherein the property comprises a grayscale value of a pixel.

10. (Original) The method of claim 8, wherein the property comprises a value indicating a color of a pixel.

11. (Original) The method of claim 7, wherein comparing a computed correlation value to a predetermined threshold comprises comparing the sum of the pixel-by-pixel multiplication of a property of corresponding pixels in the original digital image and the scanned image to the sum of the square of the original digital image.

12. (Original) The method of claim 11, wherein the property comprises a grayscale value of a pixel.

13. (Original) The method of claim 11, wherein the property comprises a value indicating a color of a pixel.

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Original) A computer-readable medium comprising logic instructions that, when executed on a processor, cause a computing device to implement the method of claim 1.

18. (Currently Amended) A computer-readable medium having computer-executable instructions that, when executed, direct a computer to:

calibrate a calibration correlation value to compensate for an error introduced by a scanning process implemented to produce a scanned image;

compare properties of an original digital image, the original digital image being defined by a matrix having dimensions $(m \times n)$ to properties of a scanned image of the original digital image, the scanned image of the original digital image being defined as a matrix having dimensions $(k \times l)$, to produce a correlation value, wherein during the comparison of the original digital image and the scanned image of the of the original digital image the scanned image is scaled to match dimensions with the original digital image by;

dividing the scanned image of the original digital image into $(m \times n)$ blocks, each block having dimensions $(k \cdot P/m)$ in the x dimension and $(l \cdot P/n)$ in the y dimension, wherein P is a resolution of dots per inch by which the second image was scanned at;

summing and averaging pixel value parameters associated with each pixel in each block respectively; and

subtract the calibration correlation value from the correlation value to calculate a difference; and

generate a signal if the difference exceeds a threshold.

19. (Original) The computer-readable medium of claim 18, wherein the computer-executable instructions that, when executed, direct a computer to compare properties of an original digital image to properties of a scanned image of the original digital image comprise instructions that, when executed, direct a computer to perform a pixel-by-pixel comparison of a property of the original digital image and the scanned image.

20. (Original) The computer-readable medium of claim 18, wherein the computer-executable instructions that, when executed, direct a computer to compare properties of an original digital image to properties of a scanned image of the original digital image comprise instructions that, when executed, direct a computer to compute a histogram representing differences in a property of the original digital image the scanned image.

21. (Original) The computer-readable medium of claim 18, wherein the computer-executable instructions that, when executed, direct a computer to compare properties of an original digital image to properties of a scanned image of the original digital image comprise instructions that, when executed, direct a computer to calculate an n^{th} -order statistic between a property of corresponding pixels in the original digital image and the scanned image.

22. (Original) The computer-readable medium of claim 18, wherein the computer-executable instructions that, when executed, direct a computer to compare properties of an original digital image to properties of a scanned image of the original digital image comprise instructions that, when executed, direct a computer to compute the sum of the pixel-by-pixel multiplication of a property of corresponding pixels in the original digital image and the scanned image.

23. (Original) The computer-readable medium of claim 18, wherein the computer-executable instructions that, when executed, direct a computer to generate a signal if a correlation value between properties of the original digital image and properties of the scanned image exceeds a threshold comprise instructions that, when executed, direct a computer to compare an n^{th} order statistic between a property of corresponding pixels in the original digital image and the scanned image to a predetermined variance parameter.

24. (Original) The computer-readable medium of claim 23, wherein the property comprises a grayscale value of a pixel.

25. (Original) The computer-readable medium of claim 23, wherein the property comprises a value indicating a color of a pixel.

26. (Original) The computer-readable medium of claim 18, wherein the computer-executable instructions that, when executed, direct a computer to generate a signal if a correlation value between properties of the original digital image and properties of the scanned image exceeds a threshold comprise instructions that, when executed, direct a computer to compare the sum of the pixel-by-pixel multiplication of a property of corresponding pixels in the original

digital image and the scanned image to a the sum of the square a property of the original digital image.

27. (Original) The computer-readable medium of claim 26, wherein the property comprises a grayscale value of a pixel.

28. (Original) The computer-readable medium of claim 26, wherein the property comprises a value indicating a color of a pixel.

29. (Currently Amended) A computer program product comprising logic instructions executable on a processor, wherein the logic instructions comprise:

A calibration module that calculates a calibration correlation value to compensate for an error introduced by a scanning process implemented to produce a scanned image;

a scaling module that scales ~~at least one of~~ a first image file, the first image file being a matrix having dimensions (m×n), and a second image file, the second image file being a matrix having dimensions (k×l), the second image file being generated by the scanning process such that the files are of the same dimensions, wherein the second image file is scaled to match the dimensions of the first image by:

dividing the second image into (m×n) blocks, each block having dimensions (k·P/m) in the x dimension and (l·P/n) in the y dimension, wherein P is a resolution of dots per inch by which the second image was scanned at;

summing and averaging pixel value parameters associated with each pixel in each block respectively; and

a correlation module that determines a correlation value between the first image file and the second image file and subtracts the calibration correlation value from the correlation value to calculate a difference, and generates a signal indicating whether the difference exceeds a threshold.

30. (Canceled)

31. (Original) The computer program product of claim 30, wherein the scaling module comprises logic instructions that instruct a processor to:

apply a threshold to the average of the parameter values in the plurality of blocks.

32. (Original) The computer program product of claim 30, wherein the correlation module comprises logic instructions that instruct a processor to compute a variance between the first image file and the second image file.

33. (Original) The computer program product of claim 30, wherein the correlation module comprises logic instructions that instruct a processor to compute a cross-product of the first image file and the second image file.

34. (Canceled)

35. (Canceled)